Claims

1. Position-sensitive detector for measuring charged particles comprising a surface region, which is formed by an amorphous layer with a structured, metallic layer disposed above it,

characterised in that

the structure of the metallic layer is continued into the amorphous layer.

2. Position-sensitive detector according to claim 1, **characterised in that** the structure of the metallic layer extends through the amorphous layer into the crystalline structure, onto which the amorphous layer is applied.

3. Position-sensitive detector according to claim 1 or 2, **characterised in that** the amorphous layer is formed from germanium or silicon.

4. Position-sensitive detector according to any one of the preceding claims, **characterised in that** the metallic layer consists of aluminium, palladium or gold.

5. Position-sensitive detector according to any one of the preceding claims, **characterised in that** the crystalline region beneath the amorphous layer is formed of germanium, silicon or a III-V compound.

6. Position-sensitive detector according to any one of the preceding claims, **characterised in that** the structure is formed from segments, which provide a mutual spacing of less than 200 µm, in particular, a spacing of less than 100 µm, by particular preference less than 20 µm.

7. Position-sensitive detector according to any one of the preceding claims, **characterised in that** the amorphous layer is applied to a semiconductor material.

8. Position-sensitive detector according to any one of the preceding claims, **characterised in that** the amorphous layer provides an electrical conductivity, which is substantially less than the conductivity of the material disposed beneath the amorphous layer.

9. Tomograph or Compton camera with a detector according to any one of the preceding claims.